

Chem 111-3D Molecule Project

1-Research VSEPR

2-Choose one of the following SHAPES:

Trigonal pyramidal(with three of the same atoms surrounding middle atom)polar  
trigonal pyramidal( with three different atoms surrounding the middle atom)polar  
Trigonal planar-no lone pairs - polar-  
Trigonal Planar-no lone pairs-non polar-  
Tetrahedral nonpolar-  
Tetrahedral -polar-  
V-shaped or bent-  
trigonal planar from trigonal bipyramid(lp on top and bottom)-polar-  
TRIGONAL PLANAR FROM trigonal bipyramid(lp on top and bottom) non-polar-  
Octahedral polar-  
Octahedral nonpolar-  
Square planar polar-  
Square planar non polar-  
Square pyramid-  
linear from octahedral with 4 LP-  
T shaped-with two lone pairs-from trigonal bipyramid-  
T-shaped---2lone pairs/3bondingpairs -  
Trigonal bipyramid polar-  
Trigonal bipyramid nonpolar-  
Teetertotter(see-saw)-trigonal bipyramid family(1lp)-  
T shaped several other possibilities. Left to choose  
T- shaped from octahedral-OO  
Tetrahedral and v shaped together in one molecule-  
Several possibilities with two shapes in one molecule  
Tetrahedral and pyramidal together in one molecule  
Linear with one central atom (polar and non-polar) both must be done if you choose this-linear triatomic-  
Linear with no central atom(polar and non-polar) both must be done if you choose this-

- 3-Using creativity and imagination design a 3D model to show your VSEPR shape. Include both the lone pairs and bonding pairs.(Usually it is helpful to use a molecule as an example). This molecule must be constructed physically.(Not on the computer) ie: paper mache, pieces of wood etc
- →Please include a creative sign with your model that has a general formula and the number of lone pairs and bonding pairs along with the name of the shape.
- →Write a detailed description on a separate piece of paper explaining how to draw your shape .(Please note that it is easiest to take the approach that you are explaining how to draw this to someone has no knowledge of chemistry.)

- → Please use at least 3 references.
- → One a separate piece of paper summarize the information about your shape in a small table.

<b>Molecular Formula</b>	Lewis Electron Dot diagram	#lone pairs	# bonding pairs	name of shape	polarity	structural diagram